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ABSTRACT

Using the coorientational framework developed by McLeod and Chaffee, this study tested Bem's theory that an individual performing a behavior (speaker) and an individual observing the behavior (listener) use the same evidence when evaluating the performer's attitudes. Participants included 96 undergraduate students at the University of Kentucky--half of whom served as subjects and half as observers. Findings supported Bem's theory and showed that (1) highest accuracy was obtained when both subject and observer were able to view the subject's speech; (2) the high inaccuracy occurring under conditions of evaluative feedback could only be interpreted as resulting from the imbalance of information held by subject and observer; and (3) subjects had a considerable edge in knowing a great deal about their behavior when presenting their speech. It was also found that accuracy decreased when inconsistency (evaluative feedback) was introduced. (HOD)

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SELF-PERCEPTION AND COORIENTATIONAL ACCURACY

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SELF-PERCEPTION AND COORIENTATIONAL ACCURACY¹

Individuals develop, revise, alter, and discard attitudes regularly. Some are maintained in spite of high cross pressures (McGuire, 1964) while others are readily changed in return for a small monetary payment (Festinger and Carlsmith, 1959). The reasons for both the maintenance and alteration of attitudes has been a major research area for scholars. Contemporary man faces the problems of altering or maintaining his own attitudes. Not only must he do this, but he must also keep track of the attitudes of others. With close friends or family, this is not too difficult. One can always ask. The greatest difficulty occurs when the individual attempts to determine the attitudes of people with whom he has little or no contact. One can never know what the political candidate really means. One can only estimate his real opinions on the basis of limited information. Even though we often have little information about others, we frequently infer their "real" opinions. How the individual estimates another's opinion should be an important research area.

The problem of estimation is somewhat simplified if both the speaker and listener use the same information in determining the speaker's attitudes. Bem (1965) suggests that this is frequently the case. He argues that both the individual performing the behavior and someone observing the behavior use the same evidence when evaluating the performer's attitudes. To test this position, Bem replicated research based on Festinger's (1957) dissonance theory. Instead of using subjects experiencing a dissonant state, Bem used outside observers who estimated the attitudes of the individuals undergoing the dissonance experiment. Bem reasoned that if the observers could accurately estimate the subjects' attitudes, even though they experienced no dissonance, then the observed behavior of the subject is the critical variable leading to attitude change, not the induced state of dissonance. He replicated (Bem, 1967) the earlier findings and interpreted this as supporting his self-persuasion theory.

Additional support for this ontogenetically oriented position is also available. Ross, Insko, and Ross (1971) found that attitudes falsely attributed to subjects influenced later attitude reports by the subjects. Bem (1967) utilized outside observers to replicate the Festinger and Carlsmith (1959) forced compliance study. Festinger and Carlsmith had proposed that attitude change was inversely related to the amount of reward offered the subject for performing an uninteresting task. Bem found the same relationship, only he used observers to infer the attitudes of the subjects. On the basis of these results it was concluded that both subjects and observers use behavioral cues in determining the subject's attitudes.

Jones, Linder, Kiesler, Zanna, and Brehm (1968; cited in Kiesler, Collins, and Miller, 1969) criticize the interpersonal simulation model used by Bem. They note that observers do not possess the same information as the subjects. The observer has no knowledge of the subject's pre-manipulation attitudes. When such knowledge was made available to the observers they failed to replicate Bem's findings. This criticism is most damaging to Bem's position only if the subject is aware that his attitude has changed. To test the relationship between the subject's pre and post manipulation knowledge, Bem and McConnell (1970) placed subjects in a forced compliance situation. They then measured the subjects' perception of his own attitude change, hypothesizing that it would be less than the attitude change seen by a control group. Their findings indicate that subjects see little attitude change and that their post-manipulation attitudes are thought to be the same as their pre-manipulation attitudes. When, in fact, the recall of their pre-manipulation attitudes correlated significantly higher with their post-manipulation attitudes than their original attitudes. Kiesler, Nisbett, and Zanna (1969) found support for Bem's position, but only when the behavior is relevant to the attitude in question.

The majority of the self-perception studies have supplied written accounts of the subjects' behavior to independent observers. Actual observation of the behavior by the observer has been less frequent. Since it is the subject's behavior that is critical to the self-persuasion model, the inclusion of subjects and observers in research designs would appear useful. Jones and Harris (1967) did use both. They had observers read or listen to a speech expressing another's viewpoint on a controversial issue. Their findings indicate that the observers inferred attitudes that were consistent with the speech, even when the other person had no choice about the position advocated in the speech. Calder, Ross, and Insko (1973) allowed the observer to watch the behavior of an actor-subject. They found that observers could estimate the actor-subjects' rating of the enjoyableness of the task under low choice conditions but underestimated the ratings under high choice conditions.

Accepting the position that self-perception research is best carried out using both subject and observer, models emphasizing the dyadic nature of the subject-observer relationship will be useful. McLeod and Chaffee (1972) propose a model that accomplishes this. The model was developed largely from Newcomb's (1953) ABX paradigm. Figure 1 presents the model, showing the relationships between dyad member's cognitions.

(Insert Figure 1 About Here)

Agreement represents the relationship between A's cognitions (what he thinks) and B's cognitions (what B thinks). To the extent that these two sets of cognitions overlap indicates the degree of agreement. Accuracy is the relationship between A's estimate of B's cognitions and B's actual cognitions. A parallel relationship exists between B's estimate of A's cognitions and A's actual cognitions. The extent that these two sets of cognitions overlap indicates the degree of accuracy. The third relationship, congruency, is an orientational rather than a coorientational measure. It exists independently of the other person's cognitions. A

high degree of congruency is indicated by high overlap between the individual's own opinion and his estimate of the other's cognition.

Expansion of the model is possible following the relationships suggested by Scheffe (1967). Nth order relations of the following types are possible.

Zero order: What do I think?
 First order: What does he think?
 Second order: What does he think I think?
 Nth order: etc.

In the model presented in Figure 1 agreement compares the zero order relationship between A and B. Accuracy is a zero order and first order comparison between A and B. Congruency compares the zero and first order relationship for A or B.

Using this model, Pasdirtz (1969) found that high congruency leads to increased communication about current news topics in husband and wife dyads. Increased communication in turn lead to increased accuracy. Clarke (1971) obtained similar results in a study looking at teenage music preferences and consequent communication about music between teenagers. When teenagers thought their attitudes about music matched someone else (high congruency) they were more likely to talk to the other person about music.

For self-perception studies the accuracy relationship is critical. How well can the independent observer estimate the attitude of the subject after seeing the subject's behavior? A similar and equally important question would be how well can the subject estimate the observer's opinion after he also sees his behavior?

The studies reviewed dealing with attribution theory suggest that observers are better able to estimate subject's attitudes when they are presented information that is also held by the subject. When this observation is related to the general coorientation model the following hypothesis results:

H1. The greater the amount of information held
 in common by the subject and the observer,
 the greater the accuracy for each.

This assumes that both subject and observer will evaluate the common information in a similar manner. Highest accuracy should occur when both the subject and the

observer view the subject's behavior under similar circumstances. Whether or not the attitudes expressed by the subject is counterattitudinal makes little difference. Given equal information, both subject and observer should infer the subject's attitude on the basis of the behavior only.

Two other general hypotheses, relating to attitude change, are offered. Carlsmith, Collins, and Helmreich (1966) found that when public commitment was counterattitudinal higher attitude change occurred under conditions of low incentive. Subjects who are allowed to see their own public behavior should support the positions taken in their public stand, whether or not they are counterattitudinal. If the public position is counterattitudinal, greater attitude change should result. Hypothesis 2 is offered to test this reasoning.

- H2. Attitude change will increase when counterattitudinal behavior is public.

Positive feedback is defined as information that enhances behavior in progress (Mortensen, 1972). Bavelas, Hastorf, Gross, and Kite (1965) found that positive feedback, in the form of a green light, increased the participation of nontalkative group members while negative feedback decreased the participation of talkative members. When positive feedback is presented to the individual making a counterattitudinal speech, greater attitude change can be expected. The idea that "If I did it well, I must believe it" is offered in support of Bem's position.

- H3. Given positive feedback, subjects making counterattitudinal statements will show greater attitude change.

Overview of the design

The present study used the basic theory developed by Bem in a coorientational setting. We concur with Calder, Ross, and Insko (1973) that the proper approach in self-perception research is on stressing the dyadic nature of the subject to observer relationship. Both a subject and an observer are present in this design. In addition to the usual concern with the observer's estimate of the subjects' opinions, we were also interested in the subject's estimate of the observer's

opinions. Accuracy measures were developed for both the subject and the observer.

We have relied heavily on the coorientational approach (McLeod, Becker, and Elliott, 1972; Chaffee, 1971). In using this approach we have not reported findings on the other two coorientational measures, congruency and agreement. Given the central importance of the accuracy variable, analysis of these relationships awaits another study. We have also included a measure of the actual performance of the subject-speakers in our design. While not an "attitude" as such the accuracy of subjects and observers in estimating the ratings given by the other dyad member was also considered to be important.

METHOD

General

123 students enrolled in introductory communications courses at the University of Kentucky were asked to complete a 25 item questionnaire² dealing with grades and grading systems. The questionnaire was represented as being part of a survey to determine student attitudes toward the university grading system.

From the original 25 items three questions were selected as speech topics. A factor analysis procedure was employed and descriptive statistics calculated to select items that had few neutral responses, a reasonable amount of deviation, and correlated only slightly with each other. Each subject's original position on each topic was determined and a proper counterattitudinal speech topic developed. Subjects whose original attitude was neutral were randomly assigned agree or disagree speech topics. No subject was neutral on all three attitude items.

The following week students in the largest class were asked if they would like to help in a study designed to compare the speech making ability of introductory speech students with the ability of the students in the communication courses. No compensation was offered. 48 students had been randomly selected from the class to participate in the experiment. Of these, 5 were unable to volunteer

An additional 5 students were randomly selected to take their place. These 48 students served as subjects.

During the same week students who had not been contacted to serve as subjects were asked if they would be willing to help evaluate the speeches given by the already selected subjects. No compensation was offered although the students were told they would find the task interesting. These students served as observers ($N = 48$).

Independent Variables

The design was a 2×2 factorial with two levels of behavioral observation (behavioral observation or no behavioral observation) and two levels of evaluative feedback (a positive evaluation of the speaker's performance or no evaluation). When the subjects and observers were combined this produced a $2 \times 2 \times 2$ factorial design. Subjects and observers were randomly assigned to each of the four conditions.

Behavioral observation of the subject's speech consisted of a videotape replay of the actual performance. For subjects the videotape was run before asking for evaluations of attitudes and performance (behavioral observation condition) or after the evaluations had been completed (no behavioral observation). Observers in the no behavioral observation cell were told that the tape had been damaged but that they were to fill out the evaluation forms as best they could. In the behavioral observation condition the observers viewed the speech and then completed the evaluation forms.

Evaluative feedback for both subjects and observers was represented as evaluations made by three other communication students. It was emphasized that the three evaluators were not "experts" but students much like themselves. Under the evaluative feedback condition both subject and observer received a copy of the evaluation report. In all cases the evaluation was quite favorable with

percentile scores ranging from the 80th to 90th percentile. The content of the evaluation form appears below.

Name _____

This past week the student listed above presented an impromptu speech which was videotaped. The student was taken from an introductory communication class. The student was given three issues concerned with grades and grading to talk about. Three other communication students were asked to rate the student's speech. These students certainly were not "experts" they are very much like yourself.

The highest possible score was a 36 and the lowest possible was a 12. We have listed below the way the ratings for this student compare with the other students who have been rated so far. Included is a percentile score for the student. For example, if he received a percentile rating of 68% it would mean that he was rated better than 68% of all the students who have been rated. If you have any questions please feel free to ask.

Average score _____

Speaker's score _____

Percentile score _____

Standard Deviation _____

Subjects

96 male and female undergraduate students enrolled in introductory communication classes at the University of Kentucky volunteered to participate in the present study. 48 served as subjects and 48 served as observers. Subjects and observers were randomly paired and assigned to one of the four experimental conditions ($N = 12$ dyads per condition).

Experimental Materials

An experimental research laboratory equipped with a soundproof chamber was employed for recording the subject's speech and for later playback to the subject and observer. A work area was provided outside of the chamber.

Procedure

The subjects were asked to report individually to the research laboratory where they were to present their impromptu speeches. The experimenter gave each subject a set of instructions and explained that the study was designed to compare the speaking ability of communication students with students in introductory speech positions listed on the instruction sheet in a three minute speech. Paper was provided for any notes. Subjects were given five minutes to prepare. The instructions were

SPEECH INSTRUCTIONS

We are interested in comparing students enrolled in Speech 181 classes to students enrolled in Communications 101 classes on their ability to give impromptu speeches. Previous work in this area has indicated that students who received formal training in introductory speech classes did no better than students who just learned the concepts of communication.

We would like for you to give a three minute speech supporting the positions listed below. You will have three or four minutes to prepare for the speech. You will find note paper on the table to make any notes you wish to take or to include any additional information. Your speech will be videotaped.

The present grading system is a topic of much interest in the university community and has been the subject of much controversy over the past few years. Below are three commonly presented positions. You are to support these positions in your three minute speech as best you can. You may want to try to be persuasive, informative, or both.

Immediately below these instructions the three topics were listed. Each set of topics was selected so that the position being advocated would be counter to the subjects originally expressed attitude. Examples of the speech topics are listed below.

- I. Grades are the only way to judge a student's progress.
- II. Grades provide an opportunity for students to compare themselves with others.
- III. Adopting a pass-fail system for general requirements would allow the student to concentrate on his major field.

In all, eight possible combinations of agreement and disagreement were used for the three speech topics.

After the subject had prepared the speech he was taken into the experimental chamber where his speech was videotaped. When necessary, the subject was notified that the three minutes were up. Following the speech subjects were asked to complete a 20 item performance rating form. Typical of the items included on this form were

1. How well did you get your point across?
2. How logically organized was your presentation?
3. How clearly did you speak when presenting your ideas?
4. How effectively did you use gestures in your presentation?
5. How effectively did you use pauses in your presentation?

The items were scored on a five point Likert scale with 5 (excellent) being the highest score and 1 (poor) being the lowest. After the performance rating had been completed the subject was given an appointment card asking him to return one week later to view the videotape.

The following week both subject and observer were brought in individually to evaluate the speeches. In the behavioral observation and evaluative feedback condition they were asked to view the videotape of the speech. After the viewing they were given the evaluation forms. Questions concerning the evaluations were answered at this time. After reading the evaluations the subject was asked to fill out two questionnaires. The first asked him to evaluate his attitudes on the grading questionnaire (this form was the same as the original only in reverse order) and then to evaluate how he thought that an observer viewing the videotape would evaluate his (the subject's) attitudes. The second questionnaire asked the subject to evaluate his own performance and then how that he thought someone else viewing the videotape would rate his performance. The procedure for the observers was similar. On the first questionnaire they were asked to evaluate their attitudes on grading and to estimate the attitudes of the subject giving the

speech over the same attitudes. On the final questionnaire they evaluated how well they thought the subject had presented the speech and how they thought the subject would have rated himself.

In the behavioral observation and no evaluative feedback condition the procedure was the same except that both subjects and observers were informed that the evaluations of the speeches they were to view were not completed at that time. Subjects and observers filled out both sets of questionnaires.

In the no behavioral observation and evaluative feedback condition subjects were given the evaluation form and told to fill out the two sets of questionnaires. After this they were shown the videotape recording of their speech. Observers in this condition were informed that the videotape had been damaged but that some information concerning the speech was available, the evaluation form. They were instructed to read the form and then to fill out the two sets of questionnaires.

In the no behavioral observation and no evaluative feedback condition subjects were asked to fill out both questionnaires. They were informed that their evaluations had not been completed. After the questionnaires were filled out they were shown their videotaped speech. Observers were told that the tape had been damaged but they were requested to fill out the questionnaire as well as they could. It was explained that complete data was necessary before the study could be completed.

Following the completion of the study the classes were informed of the study's real purpose and preliminary findings were discussed in class.

Dependent Variables

Three dependent variables were used in the study. One involves the performance measures and two involve the grading attitude measures.

Performance accuracy was measured using the absolute value of the difference between the individuals' estimate of the other's rating and the other's actual

rating. Total score ratings were used to determine the difference. For the subject performance accuracy was the absolute value of the difference between how he thought the observer had rated him and the observer's actual rating. Observer performances accuracy was the absolute difference between his estimate of the subjects' rating and the subject's actual rating (see Figure 1).

To measure attitude change, each of the three speech topic attitudes were coded to statements of agreement (originally strongly agree or agree), neutrality (originally neutral), or disagreement (disagree or strongly disagree). The absolute value of the difference between their original responses to the items and their responses after the manipulation was used to develop the change scores. A maximum change score of 2 was possible for each item or 6 for all three topics summed.

Speech item accuracy was measured by scoring a 1 if the estimate of the attitude actually matched the attitude, 0 otherwise. For subjects this comparison was made between the subject's estimate of how he thought the observer would rate his (the subject's) opinion and the observer's actual estimate of the subject's attitude. This differs from the accuracy presented in Figure 1 in that the comparison is not between the estimate and the actual attitude (see Figure 2)

(Insert Figure 2 Here)

The observer speech item accuracy was measured in the usual way, by comparing the observer's estimate of the subject's attitude with the subject's actual attitude. On this variable a score of 3 represented maximum accuracy and a score of 0 minimal accuracy.

RESULTS

Performance Accuracy

The first hypothesis states that as the information held by subject and observer becomes more equal the accuracy for each should increase. In terms of this

design, the prediction would be that subjects and observers, under the condition of behavioral observation, would be significantly more accurate than subjects and observers under the no observation condition. The influence of evaluative feedback in the no behavioral observation condition should be minimal. Without having the actual performance to view this information would be relatively useless. To test the hypothesis a least squares analysis of variance on performance accuracy was performed. A significant main effect for behavioral observation was predicted.

Table 1 presents the means and Table 2 the analysis of variance on the performance accuracy measures. The predicted main effect for behavioral observation was highly significant ($F = 12.476, p < .001$). No interactions or other main effects were found (all other entries in the table having F values less than 1). Except for subjects in the no observation and no feedback cell, behavioral observation shows a marked gain in accuracy over the no observation cells.

A series of independent contrasts (Dixon and Massey, 1969) indicated that observers under the behavioral observation condition were significantly more accurate than observers without behavioral observation ($q = 6.03, p < .01$). When observers under the behavioral observation condition were contrasted with observers without observation the difference is not significant, although a trend is noted ($q = 3.95, p < .10$).

(Insert Tables 1 and 2 Here)

Tables 3 and 4 present the mean scores for the components of the observer and subject performance accuracy. Entries in Table 3 show the observer's estimate of the subjects rating and the subjects own self-rating on his performance. In Table 4 the entries give the means for the subject's estimate of the observer's performance rating and the observer's actual performance rating of the subject.

(Insert Tables 3 and 4 about Here)

The influence of evaluative feedback on the performance ratings of both subjects and observers is quite clear. Feedback increases the ratings. Behavioral observation shows a decreasing influence for the observers while its tendency for the subjects is to increase their ratings. The influence of evaluative feedback serves primarily to raise the evaluations, not to increase accuracy. For observers with evaluative feedback but no behavioral observation, the discrepancy between estimated ratings ($\bar{x} = 64.42$) and the subjects self-rating ($\bar{x} = 47.08$) is 17.34. When behavioral observation is present and evaluative feedback absent the difference between the two means is only 8.42. This figure hardly improves when evaluative feedback is added to the behavioral observation condition, the difference being 8.83. The pattern is very similar for the components of subject performance accuracy (Table 4). With evaluative feedback and no behavioral observation the difference between the subject's estimate of the observer's rating and the observer's actual rating is $a = 18.92$. With behavioral observation and no evaluative feedback this difference declines to $a = 1.91$. When both the behavioral observation and the evaluative feedback are present the difference between the accuracy components is only .66. The closeness of estimation for subjects in the behavioral observation cell is quite impressive.

Speech Item Attitude Change

Two hypotheses were offered relating to the expected attitude change for the subjects. The first (hypothesis 2) predicts that the act of viewing the behavior will lead to greater attitude change (when the behavior is counter-attitudinal). If individuals do determine their attitudes on the basis of observing their own behavior, then the opportunity to vicariously experience the performance a second time should lead to a greater shift in attitudes. The

third hypothesis predicted an increase in attitude change under conditions of positive feedback.

Since only subjects had made the counterattitudinal speeches the above two hypotheses need alteration. Obviously, the attitudes of the subjects would be expected to change more than the attitudes of the observers. Therefore, a behavioral observation X subject-observer interaction and an evaluative feedback X subject-observer interaction were predicted. Table 5 presents the means for the three attitude change items and Table 6 presents an analysis of variance on these items.

(Insert Tables 5 and 6 Here)

The predicted evaluative feedback X subject-observer interaction was significant ($F = 4.204$, $p < .05$) The means entering into the interaction are shown in Table 5. Sizable differences can be seen on the subjects as a result of the evaluative feedback. Subjects in the observation condition without evaluative feedback exhibited little more attitude change than the observers under the same condition (2.17 vs 2.00) and even less attitude change than subjects without evaluative feedback or behavioral observation (2.75 vs 2.17). The pattern for attitude change among observers is as expected with little difference between cells.

Individual comparisons were made between subjects receiving evaluative feedback and those subjects receiving no feedback. The difference between these groups proved to be significant ($q = 5.36$, $p < .01$). The difference between subjects when evaluative feedback was present and observers under the same conditions was highly significant ($q = 7.53$, $p < .01$). At least on the three speech topics presented in this study both subjects (who had made counterattitudinal presentations) and observers (who had merely observed the presentation) showed equal degrees of attitude change. Only when positive feedback was added did the changes in attitude conform to expectations.

Speech Item Accuracy

The greater the information in common, the greater the accuracy. So stated the first hypothesis. Shared information is greatest when both the subject and the observer can view the actual behavior. Without behavioral observation, there is no reason to expect greater accuracy on the part of the subject or the observer. It might be expected that evaluative feedback would lead to higher accuracy when the behavior was observable. Therefore an interaction between behavioral observation and evaluative feedback is predicted.

Mean scores for the three speech item accuracy measures are presented in Table 7. An analysis of variance on the speech item accuracy scores is presented in Table 8.

(Insert Tables 7 and 8 Here)

The predicted interaction did occur and was highly significant ($F = 10.365$, $p < .005$). However, it did not occur in the predicted manner. Both subjects and observers in the behavioral observation and evaluative feedback condition showed less accuracy than subjects and observers in the evaluative feedback only or the behavioral observation only conditions. Their accuracy means nearly duplicate the no evaluation, no observation condition. Given that there is no reason to expect that the observed interaction occurs because of high accuracy under conditions of evaluative feedback only, the problem must lie in the decreased accuracy scores when both behavioral observation and evaluative feedback are present.

To check on the differences between this cell and the behavioral observation only cell, where accuracy was hypothesized to be high, the scores in each were compared using selected contrasts. The difference between these two cells was quite high ($q = 5.85$, $p < .01$). The difference between subjects and observers in the evaluative feedback only cell and subjects and observers in the evaluative feedback and behavioral observation cell was not significant.

(Insert Figure 3 Here)

The pattern of this interaction was remarkably similar for both subjects and observers. Figure 3 (above) graphically illustrates this similarity. For both subject and observers behavioral observation increases accuracy when evaluative feedback is absent. When feedback is present, the result is opposite. Behavioral observation leads to decreased accuracy.

DISCUSSION

The fundamental purpose of this research was to test some of the basic relationships developed by Bem (1970) using the coorientational framework developed by McLeod and Chaffee (1972). The relationship between these two approaches is quite straightforward. Bem maintains that behavior leads to attitudes. McLeod and Chaffee provide a useful dependent variable, coorientational accuracy. If Bem's position is correct, then both subject and observer will use the same types of information when evaluating either the performance or the attitudes of the subject-speaker. Quite clearly, the findings on the performance accuracy support this straightforward relationship. Highest accuracy was obtained when both subject and observer were able to view the subject's speech. The high inaccuracy occurring under conditions of evaluative feedback only can be interpreted as resulting from the imbalance of information held by subject and observer. The subjects had a considerable knowledge edge in knowing a great deal about their behavior when presenting their speech. The observers had only an evaluative form. Under these conditions, inaccuracy is the only likely result.

The issue is considerably less clear when one looks at the attitude accuracy measures. The behavioral observation by evaluative feedback interaction was predicted, but not as it occurred. Clearly, accuracy scores in the feedback and observation cell were too low. Why? One possible explanation might lie in the heavy emphasis on the performance during the manipulation. After seeing the

performance evaluations observers and subjects might be expected to discount the importance of the attitudes expressed during the presentation. Similarly, the obvious difference between the evaluations and some of the performances (quite a few were rather poorly done) might lead many to concentrate on this discrepancy rather than on the content of the speech.

The most theoretically interesting interpretation requires an evaluation of the types of information presented to the subjects and observers. In the behavioral observation condition subject and observer estimated each other's positions on the basis of the content of the videotape. It was in this condition that accuracy scores were highest for both viewers. Evaluative feedback, when it is independent of the actual behavior, represents a different type of information. In many cases the evaluation must have seemed wildly at odds with the actual behavior observed. This applies to both the subject and the observer. The inconsistent relationship between the two types of information is likely to make the processing of that information more difficult. The question of how to evaluate the speaker's attitudes or the observer's estimate of those attitudes is clouded by the knowledge that the behavior and the rating do not match. Given the ambiguous relationship between the two sets of information, perhaps the failure to make accurate estimates is hardly surprising.

Where both sets of information relate directly to the behavior under consideration (as in the case of performance accuracy) the relationship between information held in common and accuracy for subject and observer holds reasonably well. However, when the object of the evaluation is not something directly observable, like an attitude, information held in common leads to increased accuracy only when the information is consistent with the behavior. Introduce inconsistency (in our case evaluative feedback) and accuracy decreases. This finding parallels that of Jones, Linder, Kiesler, Zanna, and Brehm (1968) who found that when observers knew a behavior was counterattitudinal they could not replicate Bem's findings.

The results of the attitude change scores for the three speech items offer limited support for Bem's position. Bem would have the subject reasoning "I said it, therefore I believe it." The findings indicate otherwise. Attitude change appeared to decrease when only behavioral observation was present. In this study, the major influence on attitude change was the availability of evaluative feedback. This does not really discount Bem's reasoning. The evaluative feedback was an environmental stimulus that did lead to attitude change. Bem might also argue that the subjects, seeing their behavior and evaluating it as less than an adequate job, might reason that "If I did that poorly, I really couldn't have believed in what I was saying."

Future research in the area of self-perception might do well to consider the difficulty of the task involved and the evaluations made by subject and observer concerning the task performance. They might also focus on the types of information supplied to the subject and observer to determine the relationship between discrepant information and accuracy.

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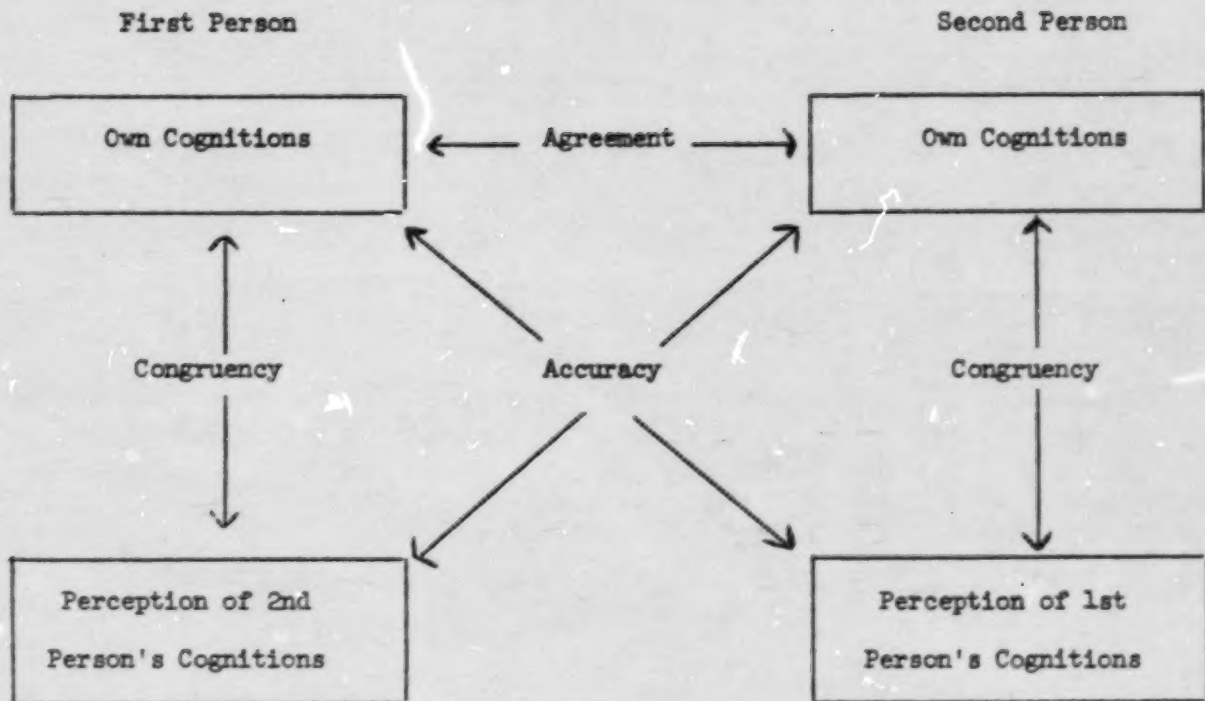
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Figure 1
The General Coorientation Model

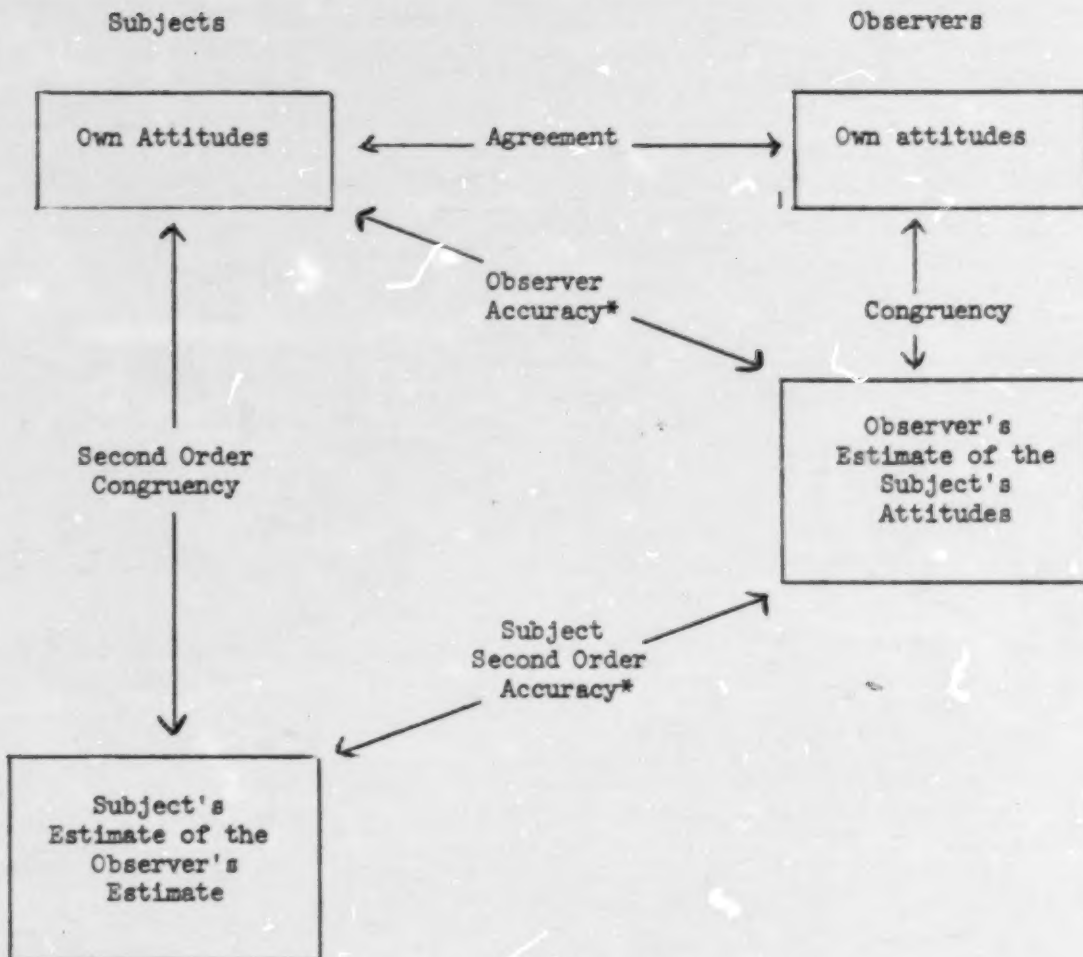


NOTE: The boxes indicate the operational measures that are made on each person. Arrows connecting the boxes are labeled to indicate the measures that are compared to construct each coorientational index.

(McLeod and Chaffee, 1972)

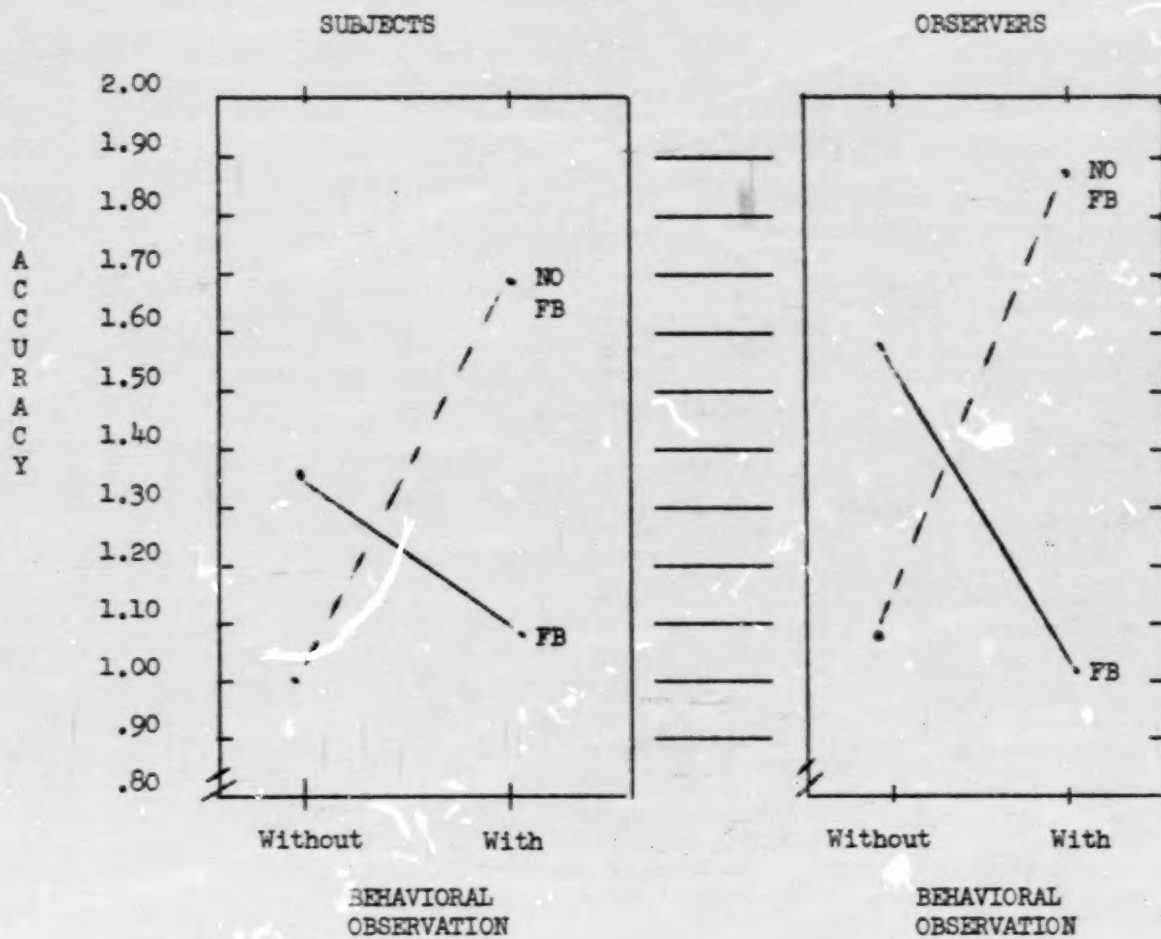
Figure 2

Coorientation Structure for Attitude Measures



NOTE: The usual subject accuracy measure, the subject's estimate of the observer's attitude, is not included in this model. Rather, the subject's estimate of the observer's estimate is compared with the observer's estimate to determine the second order accuracy level. Items with * represent measures used in this study.

Figure 3



Mean Attitude Accuracy for the Behavioral
Observation X Feedback Interaction

NOTE: High scores indicate high accuracy.

TABLE 1

Mean Performance Accuracy

	Without Behavioral Observation		With Behavioral Observation	
	Subjects	Observers	Subjects	Observers
Without Evaluative Feedback	13.50	19.67	11.58	10.92
With Evaluative Feedback	19.00	19.50	9.50	10.83

NOTE: Low scores indicate high accuracy when using difference score measures. Number of measures per cell = 12.

TABLE 2

Analysis of Variance on Performance Accuracy

Source	df	MS	F	P <
Behavioral Observation (A)	1	1247.041	12.476	.001
Evaluative Feedback (B)	1	15.041	.150	
Subject-Observer (C)	1	80.667	.807	
A X B	1	84.376	.844	
A X C	1	54.001	.540	
B X C	1	20.168	.202	
A X B X C	1	89.163	.892	
Error	88	99.958		

TABLE 3

Mean Performance Ratings
Observer Accuracy Components

	Without Behavioral Observation		With Behavioral Observation	
	Subjects	Observers	Subjects	Observers
Without Evaluative Feedback	40.83	58.67	46.08	54.50
With Evaluative Feedback	47.08	64.42	51.50	60.33

NOTE: In tables 3 and 4 a high score indicates a favorable performance rating. Number of subjects or observers per cell = 12.

TABLE 4

Mean Performance Ratings
Subject Accuracy Components

	Without Behavioral Observation		With Behavioral Observation	
	Subjects	Observers	Subjects	Observers
Without Evaluative Feedback	45.08	56.25	47.42	49.33
With Evaluative Feedback	48.50	67.42	56.08	55.42

TABLE 5

Mean Attitude Change Scores
Three Speech Items

	Without Behavioral Observation		With Behavioral Observation	
	Subjects	Observers	Subjects	Observers
Without Evaluative Feedback	2.75	2.25	2.17	2.00
With Evaluative Feedback	3.58	2.00	3.42	2.08

NOTE: High score indicates high attitude change. Subjects and observers per cell = 12.

TABLE 6

Analysis of Variance on
Speech Item Attitude Change

Source	df	MS	F	P <
Behavioral Observation (A)	1	1.260	.698	
Evaluative Feedback (B)	1	5.510	3.051	.10
Subject- Observer (C)	1	19.260	10.665	.01
A X B	1	.844	.467	
A X C	1	.510	.283	
B X C	1	7.594	4.205	.05
A X B X C	1	.010	.006	
Error	88	1.806		

TABLE 7

Mean Accuracy Scores
Three Speech Items

	Without Behavioral Observation		With Behavioral Observation	
	Subjects	Observers	Subjects	Observers
Without Evaluative Feedback	1.000	1.08	1.75	1.83
With Evaluative Feedback	1.33	1.58	1.08	1.00

TABLE 8

Analysis of Vairance on
Speech Item Accuracy

Source	df	MS	F	P
Behavioral Observation (A)	1	.667	.846	
Evaluative Feedback (B)	1	.667	.846	
Subject- Observer (C)	1	.167	.212	
A X B	1	8.167	10.365	.01
A X C	1	.167	.212	
B X C	1	.000	.000	
A X B X C	1	.167	.212	
Error	88	.789		

TABLE 7

Mean Accuracy Scores
Three Speech Items

	Without Behavioral Observation		With Behavioral Observation	
	Subjects	Observers	Subjects	Observers
Without Evaluative Feedback	1.000	1.08	1.75	1.83
With Evaluative Feedback	1.33	1.58	1.08	1.00

TABLE 8

Analysis of Vairance on
Speech Item Accuracy

Source	df	MS	F	P
Behavioral Observation (A)	1	.667	.846	
Evaluative Feedback (B)	1	.667	.846	
Subject- Observer (C)	1	.167	.212	
A X B	1	8.167	10.365	.01
A X C	1	.167	.212	
B X C	1	.000	.000	
A X B X C	1	.167	.212	
Error	88	.789		